

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-21 (Canceled)

22. (Previously Presented) Process for producing a lactam by a reaction between water vapor and an aminonitrile in vapor phase and in presence of a catalyst, comprising providing water in vapor phase to an evaporator, and vaporizing the aminonitrile by feeding the aminonitrile in liquid phase to the evaporator, wherein the aminonitrile in liquid phase is contacted with the water vapor in the evaporator, and subsequently introducing the resulting mixture of aminonitrile and water vapor into a hydrolysis reactor in which the resulting mixture is contacted with the catalyst, and wherein the aminonitrile originates from a hydrogenation to a primary amine function of one of the two nitrile functions of a dinitrile selected from the group consisting of adiponitrile, methylglutaronitrile, ethylsuccinonitrile, dimethylsuccinonitrile, malononitrile, succinonitrile, glutaronitrile and dodecanedinitrile.

23. (Currently Amended) Process according to claim 22, wherein the water vapor is fed at a temperature of from ~~120 to 600 C~~ 120° to 600°C.

24. (Currently Amended) Process according to claim 22, wherein the aminonitrile is fed at a temperature of from ~~20 to 300 C~~ 20° to 300°C.

Claims 25, 26 and 27 (Canceled)

28. (Previously Presented) Process according to claim 22, wherein the resulting mixture of aminonitrile in the water vapor that is obtained is brought to the temperature of reaction between the aminonitrile and water.

29. (Previously Presented) Process according to claim 22, wherein the aminonitrile is a linear or branched aliphatic aminonitrile having 3 to 12 carbon atoms.

Claim 30 (Canceled)

31. (Previously Presented) Process according to claim 22, wherein the vaporization of the aminonitrile is conducted under an absolute pressure of from 1 to 3 bar.

32. (Previously Presented) Process according to claim 22, wherein the vaporization step is performed with a system without retention of liquid.

33. (Previously Presented) Process according to claim 22, wherein the vaporization of the aminonitrile is performed with a dwell time of liquid aminonitrile in the vaporization step being less than or equal to one minute.

34. (Currently Amended) Process for producing a lactam by a reaction between water vapor and ~~an~~ a linear or branched aliphatic aminonitrile having 3 to 12 carbon atoms in vapor phase and in the presence of a catalyst, comprising providing water in vapor phase to an evaporator, and vaporizing the aminonitrile by feeding the aminonitrile in liquid phase to the evaporator, wherein the aminonitrile in liquid phase is contacted with the water vapor in the evaporator, and subsequently introducing the resulting mixture of aminonitrile and water vapor into a hydrolysis reactor in which the resulting mixture is contacted with the catalyst, and wherein the aminonitrile is fed as a film on a heated surface, in a falling-film evaporator.

35. (Currently Amended) Process for producing a lactam by a reaction between water vapor and ~~an~~ a linear or branched aliphatic aminonitrile having 3 to 12 carbon atoms in vapor phase and in the presence of a catalyst, comprising providing water in vapor phase to an evaporator, and vaporizing the aminonitrile by feeding the aminonitrile in liquid phase to the evaporator, wherein the aminonitrile in liquid phase is contacted with the water vapor in the evaporator, and subsequently introducing the resulting mixture of aminonitrile and water vapor into a hydrolysis reactor in which the resulting mixture is contacted with the catalyst, and wherein the aminonitrile is atomized in the fed water vapor.

36. (Currently Amended) Process for producing a lactam by a reaction between water vapor and ~~an~~ a linear or branched aliphatic aminonitrile having 3 to 12 carbon atoms in vapor phase and in the presence of a catalyst, comprising providing water in vapor phase to an evaporator, and vaporizing the aminonitrile by feeding the aminonitrile in liquid phase to the evaporator, wherein the aminonitrile in liquid phase is contacted with the water vapor in the evaporator, and subsequently introducing the resulting mixture of aminonitrile and water vapor into a hydrolysis reactor in which the resulting mixture is contacted with the catalyst, wherein liquid aminonitrile is fed into water vapor to produce a mixture of water vapor and aminonitrile and the resulting mixture brought rapidly in a heat exchanger to a temperature at which vaporization of the mixture is complete.